



**BEACON HR/PAYROLL IMPLEMENTATION PROJECT
SYSTEM LANDSCAPE STRATEGY**



APPROVERS

Approval Date	Approver Name and Role	Approver Signature

PMO RELEASE AUTHORIZATION

Release Authority:			Date:	
Version#:				



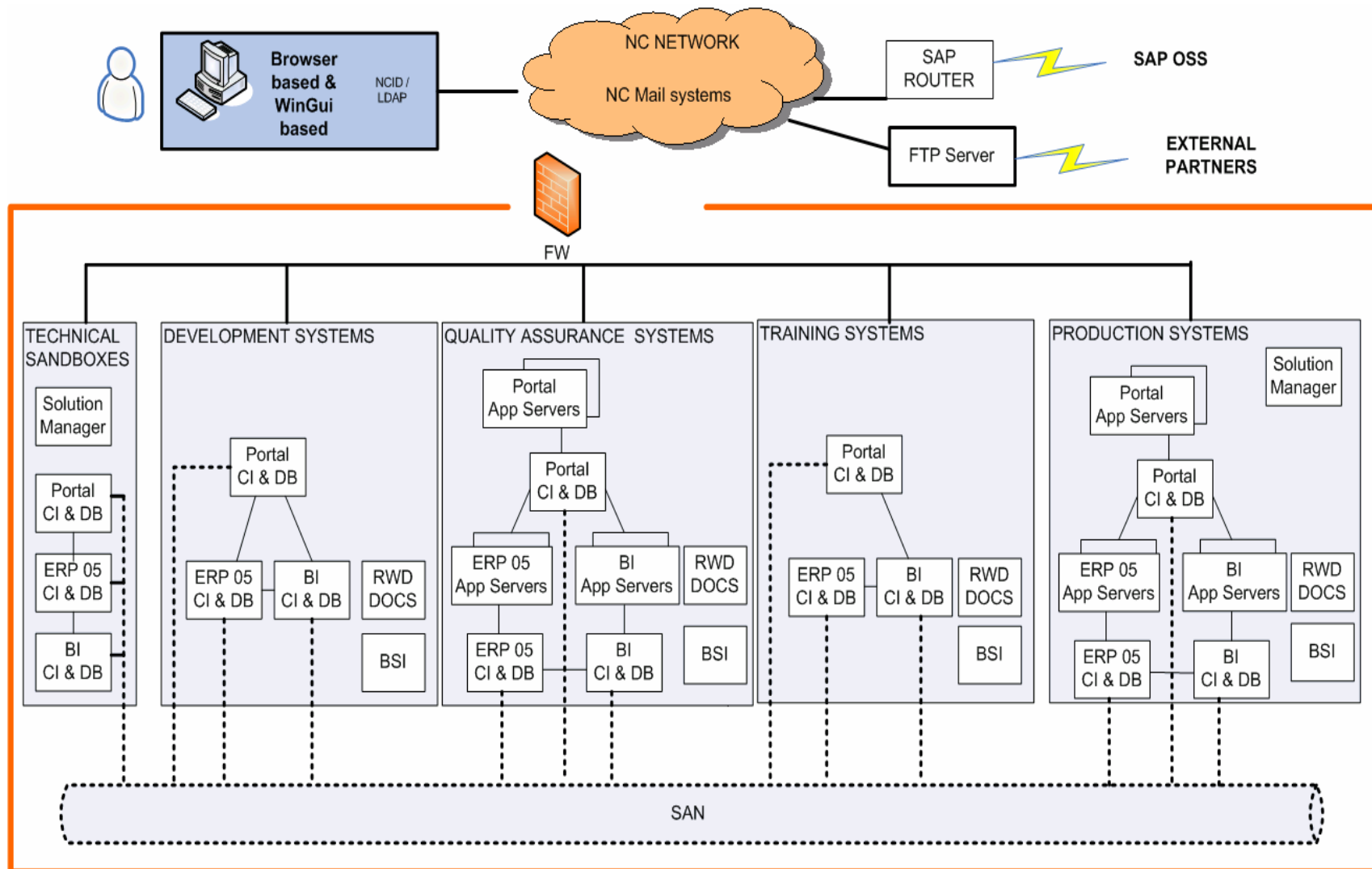
DELIVERABLE DESCRIPTION

- **The system landscape strategy states the purpose of each SAP system, providing each system with an identifier and establishing a transport route between the systems for the distribution of customizing and development efforts. Clients are then distributed in this landscape. After the system landscape has been defined, an implementation strategy is created for the setup and maintenance of the systems and clients within this landscape. This task will outline the planned system landscape and will be an input into the landscape hosting decision and subsequent acquisition.**
- **BearingPoint will guide the State with their experience to select a platform solution that is based on proven implementations and minimum risk to the overall project.**
- **A list of BearingPoint's previous client experience with industry proven SAP solutions within the Public Sector will be utilized as input to compile the guide. The guide will outline the advantages and disadvantages from different platforms and highlight two to three most suitable platforms to achieve a minimum risk implementation.**



SYSTEM LANDSCAPE DIAGRAM

LANDSCAPE LOGICAL OVERVIEW





LANDSCAPE TECHNICAL ASSUMPTIONS

- **It is the intent for User authentication to occur with NCID via related LDAP directory. SAP systems will authenticate against central LDAP. [How do timeouts in R3 relate this step?]**
- **All users will logon to the Portal for authentication and then be directed to R3 via WinGui, or Webgui, or BW via browser. [GUI strategy = ?]**
- **Crystal enterprise report servers need to be added. [how many? One development and one production??]**
- **SAP ITS, ESS, & MSS functions will occur on WAS 7.0/ERP 2005 servers.**
- **Gig-e network connection assumed between SAP systems**
- **How load balancing for portal front ends will occur needs to be defined.**
 - (Could be content switches, web dispatchers, or WAS functionality) WAS load balancing will be used for WAS servers, unless other requirements specify otherwise.
- **ERP 2005, BI 7.0. Solution Manager 4.0, and Portal 7.0 are versions to be used, along with possibly other tools within Netweaver 2004s.**
- **Permanent Technical Sandbox servers need to be same technology as rest of landscape, but do not need to be large servers.**
- **Technical Sandboxes are primarily for the technical teams use in testing new releases/patches of OS and SAP.**



LANDSCAPE TECHNICAL ASSUMPTIONS

- **HTTPS connections assumed when connecting to the Portal.**
- **HTTP/non-encrypted assumed between SAP systems, if firewall is in place.**
- **XI is not currently included in landscape, until interface planning is completed to determine if it is needed.**
- **WinGui direct access will be used by project/support team to all systems, at least partially.**
- **If we use Central User Administration – where is master client? This will be determined during Blueprint**
- **TREX server(s) will be needed**
- **High availability for rapid failover. Where are economic decision points?**
- **No single point of failure in network or hardware.**
- **Central LDAP server is provided by ITS infrastructure. LDAP is high availability also.**
- **Hardware/OS should support dynamic capacity changes such as CPU, Memory, etc.**
- **Hardware / OS should provide simple path for expanding capacity for future initiatives, without installation downtimes, etc.**
- **Environment should support single point of OS builds across logical servers.**



SAP SYSTEM / CLIENT STRATEGY



THE DEVELOPMENT SYSTEM

- **100 - The “Gold” Master Configuration**

ONLY master configuration will be entered here after initial prototype configuration in client 600. Configuration changes will be tracked and all configuration transports to QAS, TRG, and PRD systems will emanate from here. Client independent configuration occurs here.

- **200 - Unit Testing**

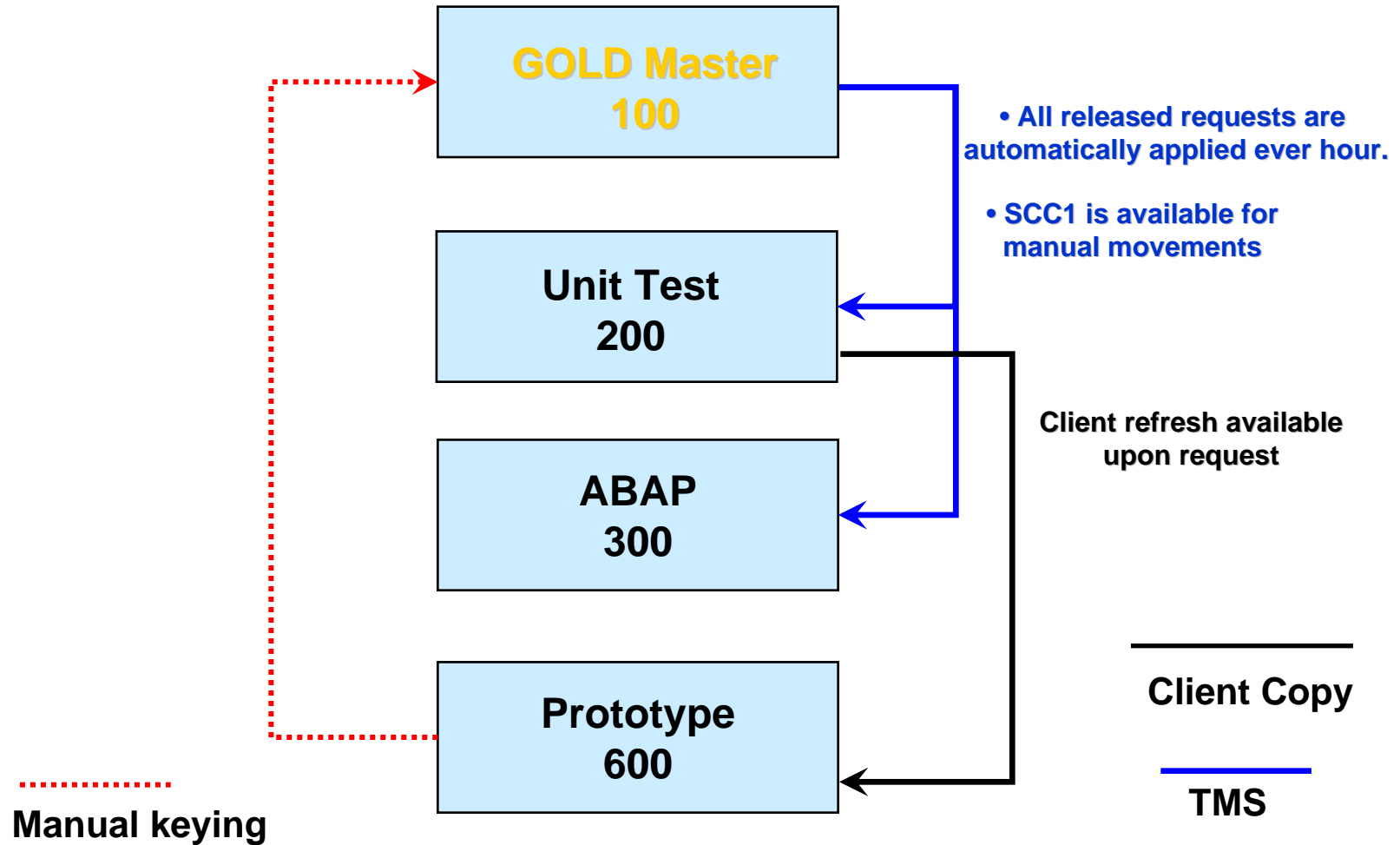
Master configuration will be transported here from client 100 and then unit tested. No changes to the configuration or development will be allowed.

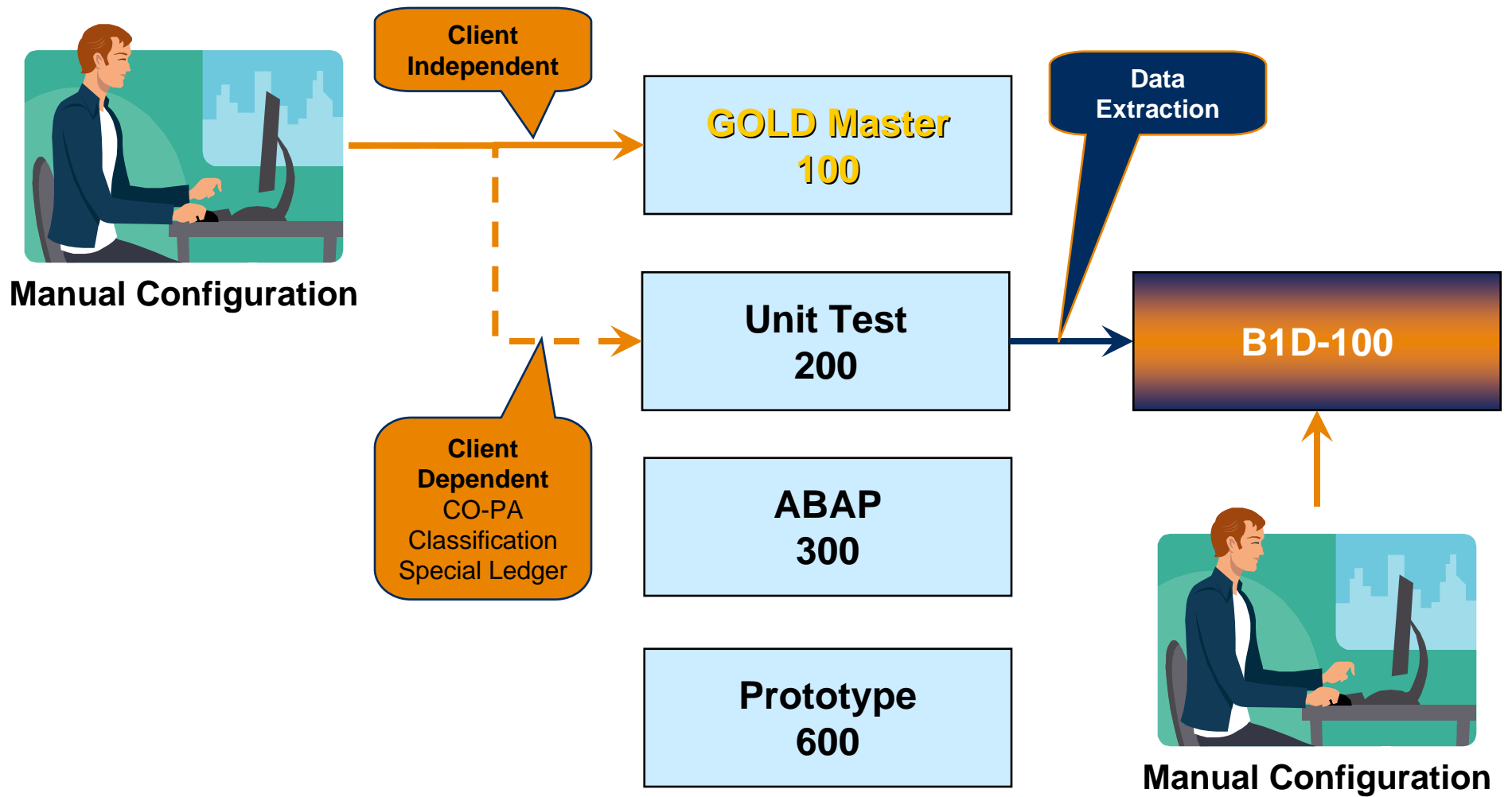
- **300 - ABAP Development**

Master configuration will be transported here from client 100 and ABAP development will take place here. Development will be tracked and all development transports to QAS, TRG and PRD systems will emanate from here.

- **600 – Prototype Configuration**

Initial configuration can be entered here to experiment or to test changes to essential structures to ensure that those changes will work. Configuration changes will not be tracked and no transports will emanate from here. It will be refreshed via client copy on request from the functional teams.







SAMPLE DEVELOPMENT SECURITY ROLES

Development Systems	
Z:CRM_SRM_Config_all Z:BW_Config_all Z:R3_Config_all	All modules customizing/configuring access. <ul style="list-style-type: none"> - No Basis access for example STMS, SM59. - No Security maintain access for example SU01. Display user with SU01D and display role are allowed. - Display & Execute ABAP program - Can't release transport
Z:CRM_SRM_ABAP_all Z:BW_ABAP_ALL Z:R3_ABAP_ALL	All ABAP access <ul style="list-style-type: none"> - No Basis access for example STMS, SM59. - No Security maintain access for example SU01. Display user with SU01D and display role are allowed. - Create, change, Display & Execute ABAP program - Can't release transport
Z:Release_transport	Release transport access
Z:CRM_SRM_Universal Z:BW_Universal Z:R3_Universal	Access to print, user parameter, authorization check and SAP office mail
Z:CRM_SRM_Trans_all Z:BW_Trans_all Z:R3_Trans_all	All functional modules create, change, display access. <ul style="list-style-type: none"> - Display configuration and ABAP codes - No Basis and Security access
Z:Security_all	All Security access
Z:Basis_all	All Basis access



THE QUALITY ASSURANCE SYSTEM

- **100 - Integration Testing**

Will contain approved and released configuration and development objects from DEV. The configuration and development objects will be integration tested here. No changes to configuration or development will be allowed. **Only after approval** are changes released to the Production System.

- **50X - Special Testing**

Will contain approved and released configuration and development objects from DEV. These clients will allow special testing (data loads, parallel testing, etc.) to occur without impacting overall project team. No changes to configuration or development will be allowed.



THE TRAINING SYSTEM

- **800 - Training Master**

Will be used as the master client for end-user training. Transports will be imported **only after approval from training team lead**, and only on demand. No changes to configuration or development will be allowed.

- **80N - Clients for Training Classes**

End user classroom clients will be created via client copy from client 800.

- **899 – Client for end users to practice after attending training classes**



QAS and TRG refreshes from Production

Periodically QAS clients or the entire system will need to be refreshed from Production.

- The timing of these refreshes during the implementation project will be determined by discussions between the PMO, functional and the technical teams.
- Whether a client export is utilized vs. an entire system refresh will be dictated by the project needs at the time.
- After Go Live – periodic QAS refreshes will be scheduled, with the frequency being dictated by support requirements.

Periodically TRG client 800 will need to be refreshed from either QAS or PRD systems.

- The timing of these refreshes will be dictated by the training team, based on classes that are scheduled and the state of the training material.



SAMPLE QUALITY ASSURANCE SECURITY ROLES

Quality Assurance Systems	
Z:CRM_SRM_Trans_all Z:BW_Trans_all Z:R3_Trans_all	All functional modules create, change, display access. <ul style="list-style-type: none">- Display configuration and ABAP codes- Data load access- No Basis and Security access
Z:Security_all	All Security access
Z:Basis_all	All Basis access
Z:Universal	Access to print and SAP office mail



THE PRODUCTION SYSTEM

- **100 – Production**

Will contain QA tested and approved configuration and development objects. Changes to configuration or development will be not be allowed.



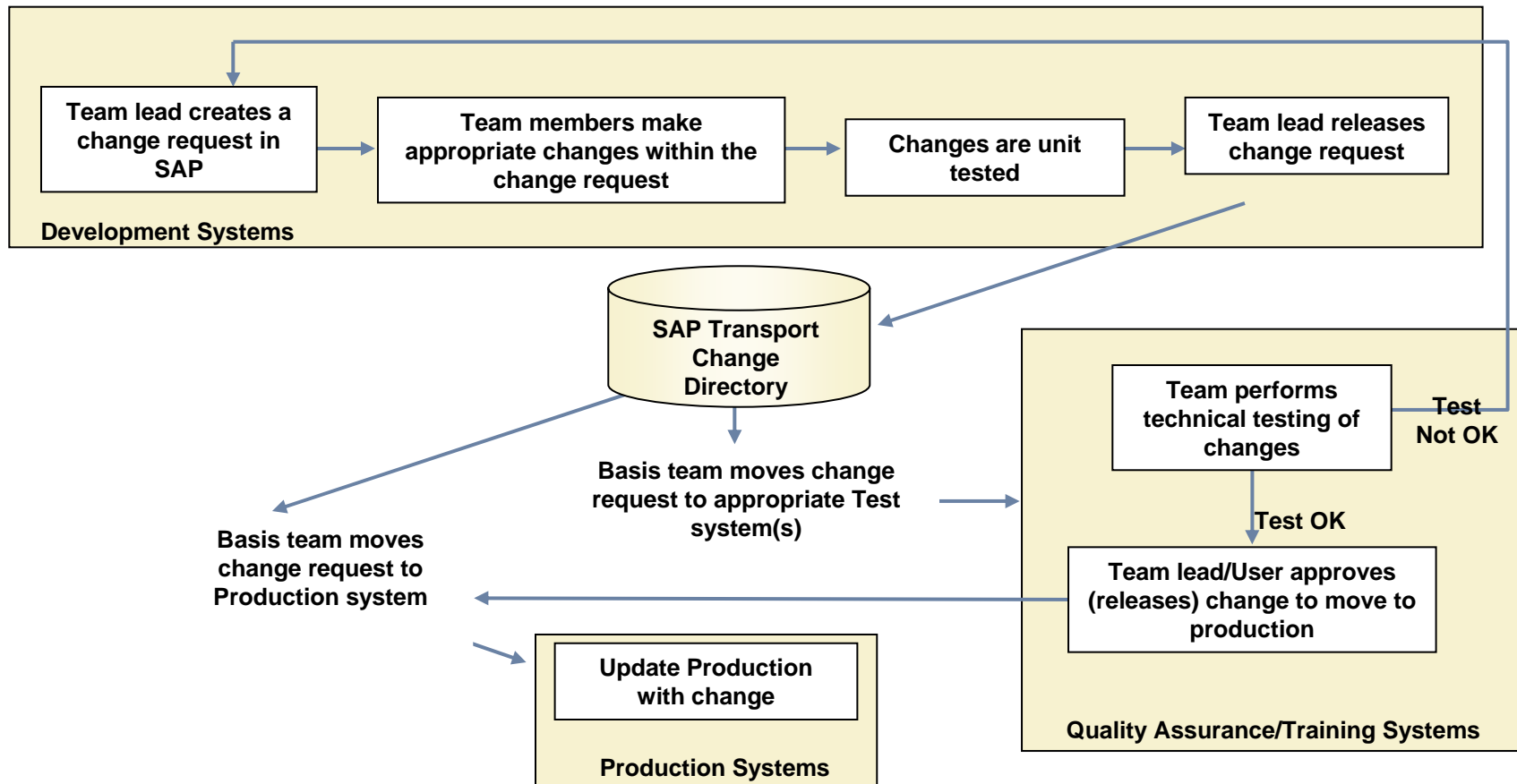
SAMPLE PRODUCTION SECURITY ROLES

Production Systems	
Z:Security_display	Security display access, user master maintenance, display role access.
Z:Basis_display	Basis access except for SE80, SE38.
Z:CRM_SRM_Config_Display Z:BW_Config_Display Z:R3_Config_Display	Functional team has to submit specific configuration display transactions needed in PRD. - No SA38, SE38, SA80, SE16 allowed in PRD.
Z:ABAP_Display	SE38 display access given in case of emergency problem only.
Z:Universal	Access to print and SAP office mail
End users roles	Security team working with functional teams and State's Subject Matter Expert to define end User roles in PRD.



TRANSPORT STRATEGY

CHANGE MANAGEMENT SYSTEM PROCESS OVERVIEW





HOW DOES TMS CAPTURE CHANGES in ERP ?

REQUEST

(owned by Team Lead)



TASK 1 (owned by Team Member A)

TASK 2 (owned by Team Member B)

TASK 3 (owned by Team Member C)

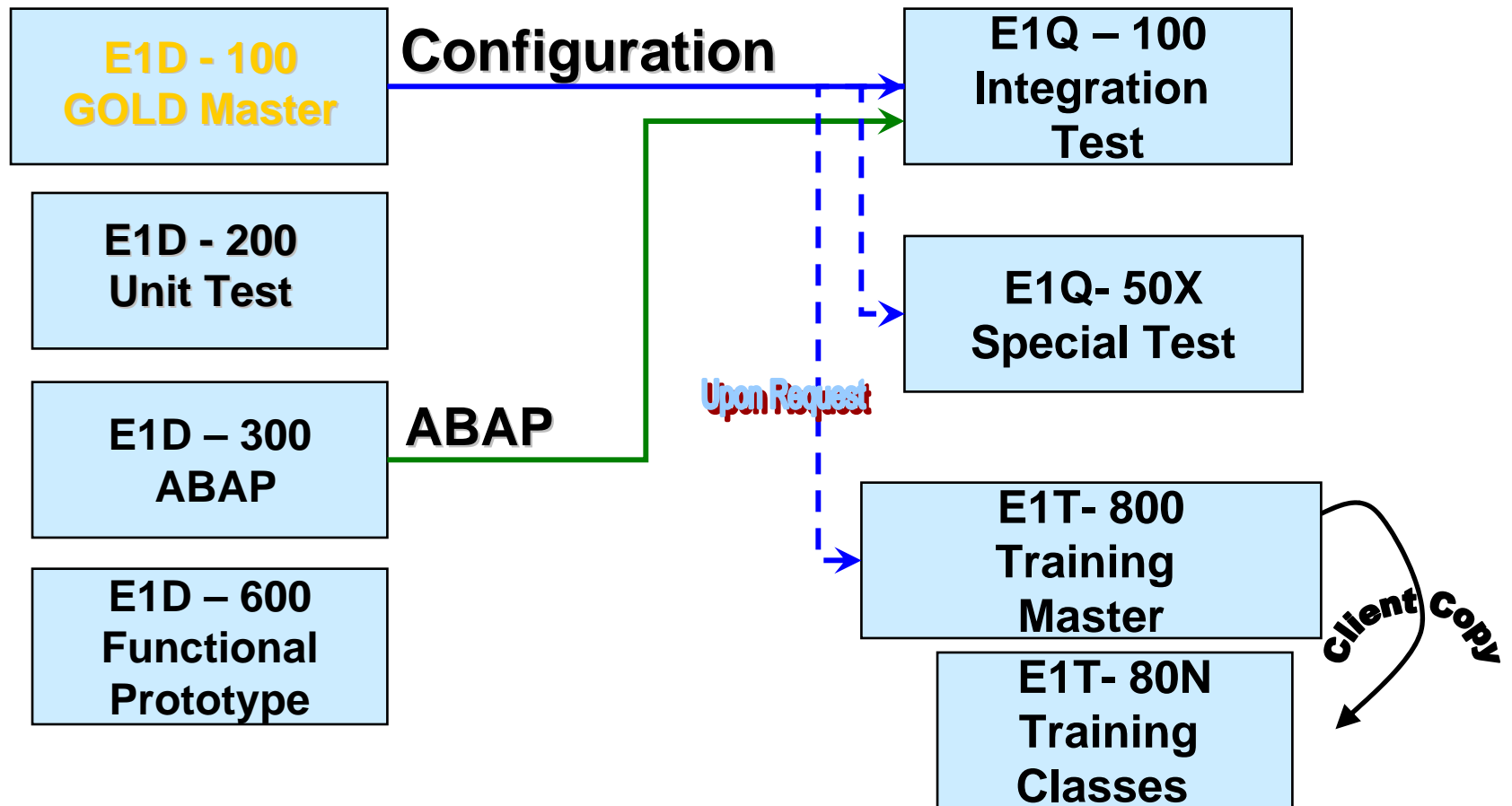


HOW DOES TMS CAPTURE CHANGES in ERP ?

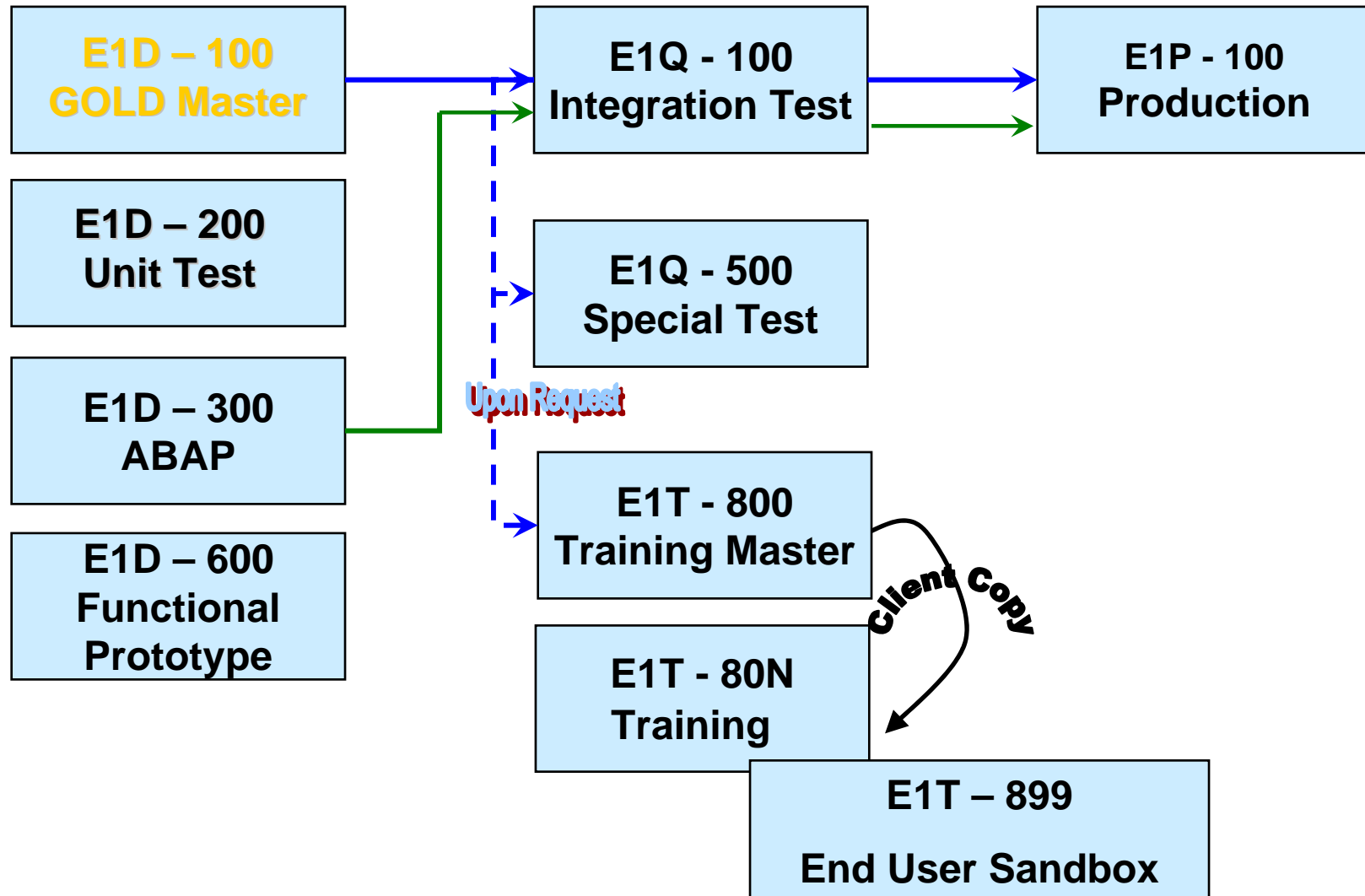
- **As Team Members finish their work, they document it and release their own task to the request.**
- **When all tasks are released, the Team Lead reviews the work, verifies proper documentation, and releases the Request.**



ERP SYSTEM CLIENT / TRANSPORT STRATEGY

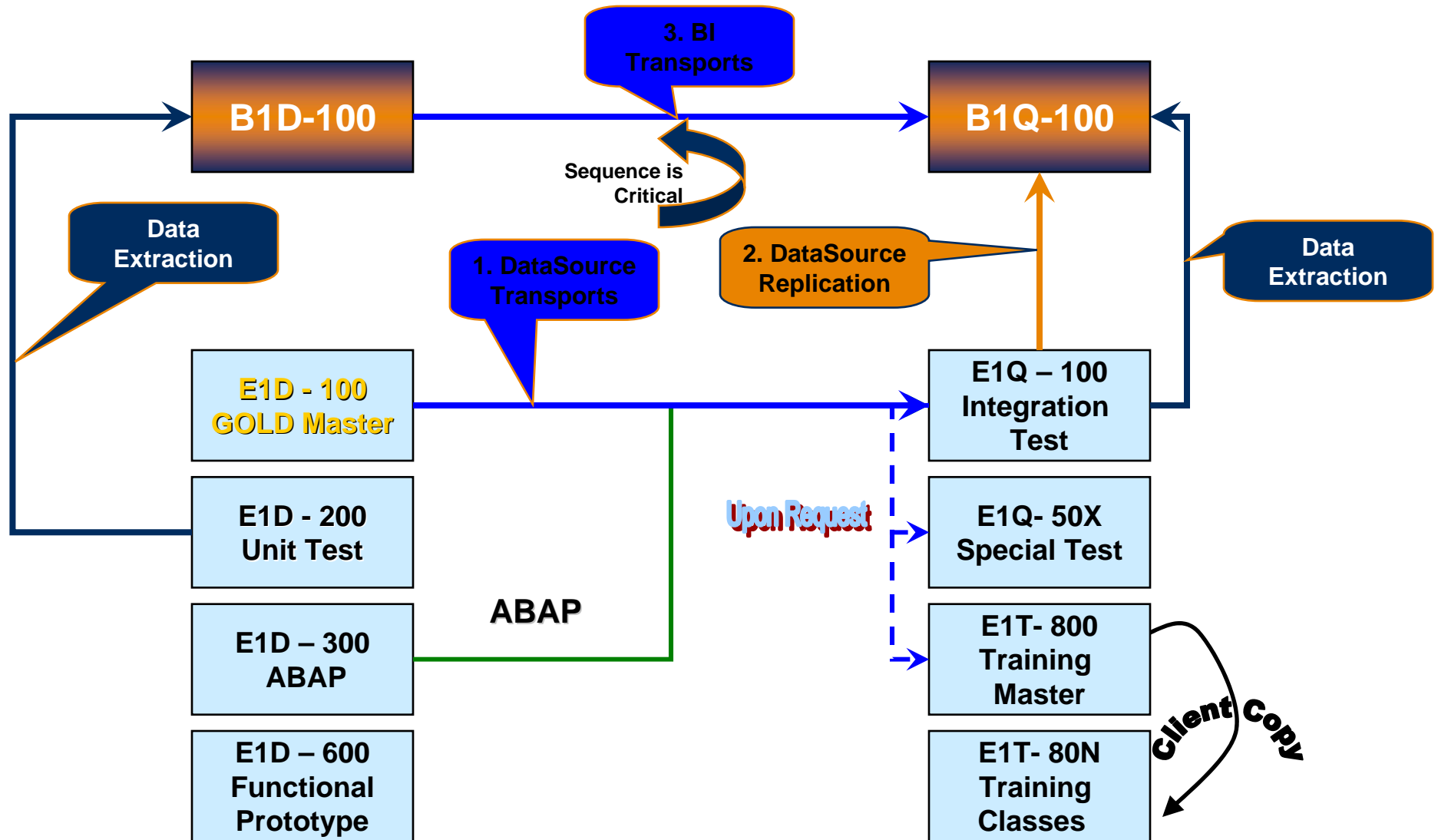


TRANSPORTING TO ERP PRODUCTION

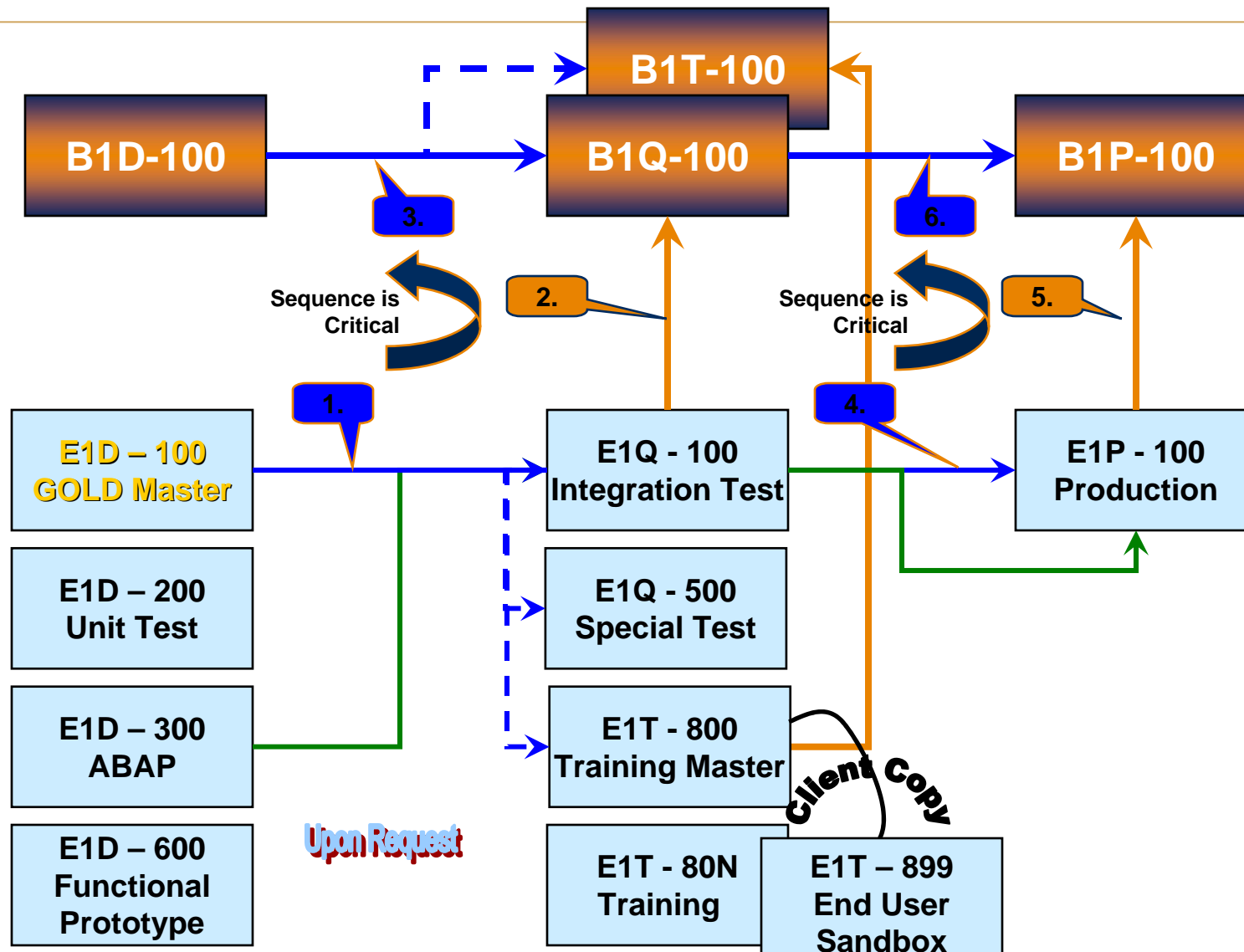




BI SYSTEM CLIENT & TRANSPORT STRATEGY



TRANSPORTING TO PRODUCTION

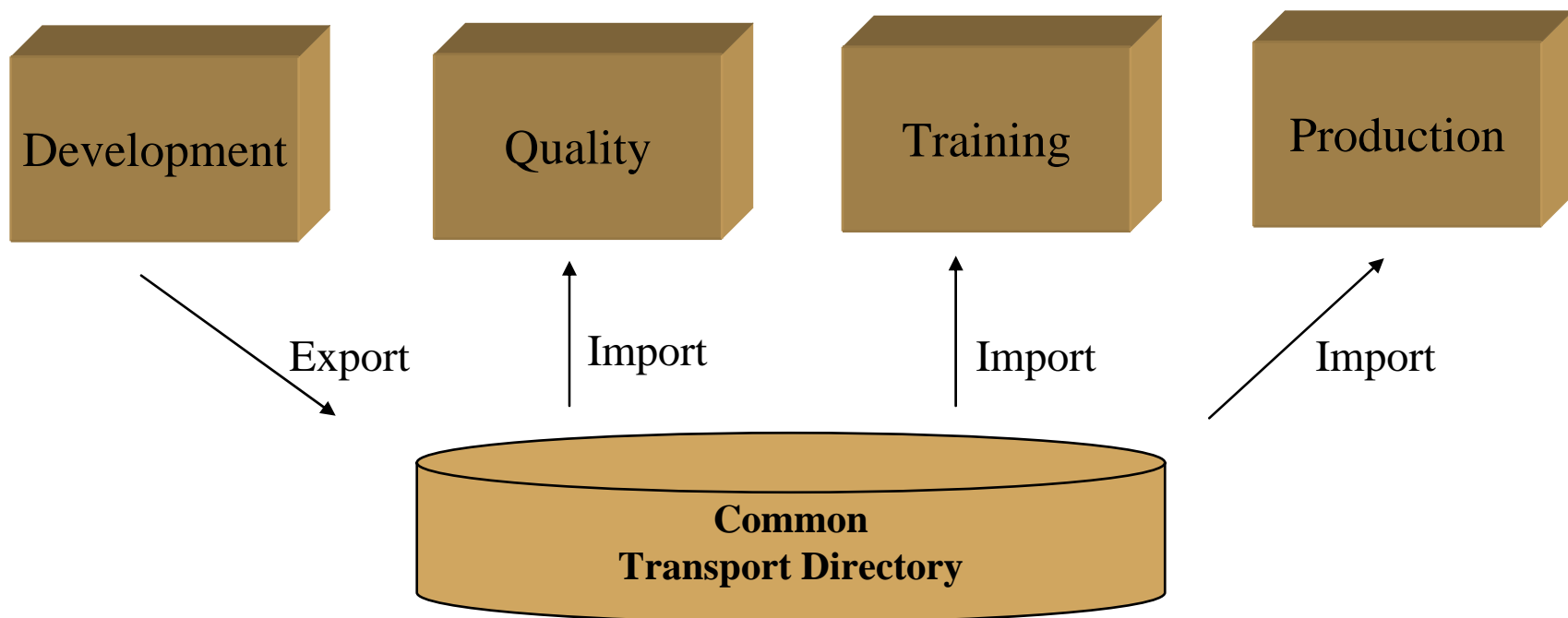




ENTERPRISE PORTAL SYSTEM TRANSPORT STRATEGY

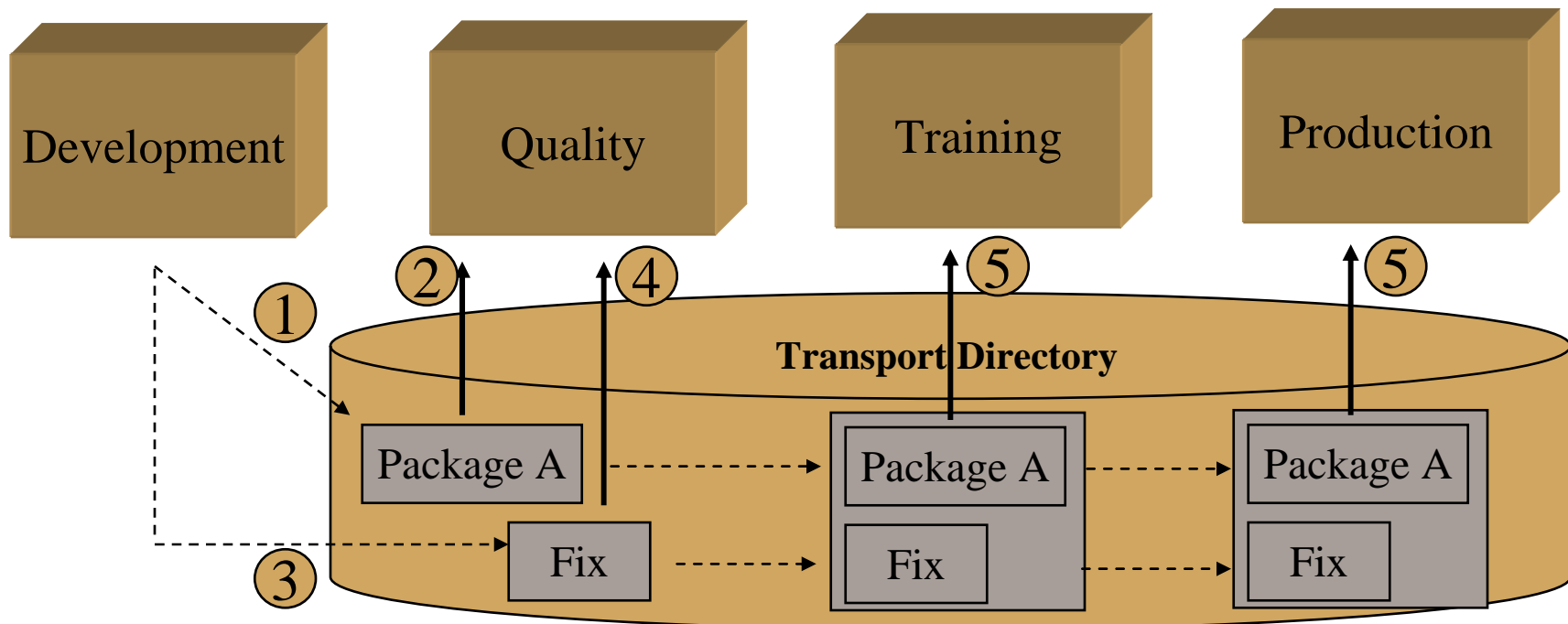
PORTAL LANDSCAPE: OVERVIEW

- The portal transport system does not have an automated transport path. This enables more flexibility, but requires an established process.
- Portal transports are import and export files organized into portal transport packages.
- All changes are made in development, then imported into the QA, training, and production environments. Changes are not made on the upstream systems.

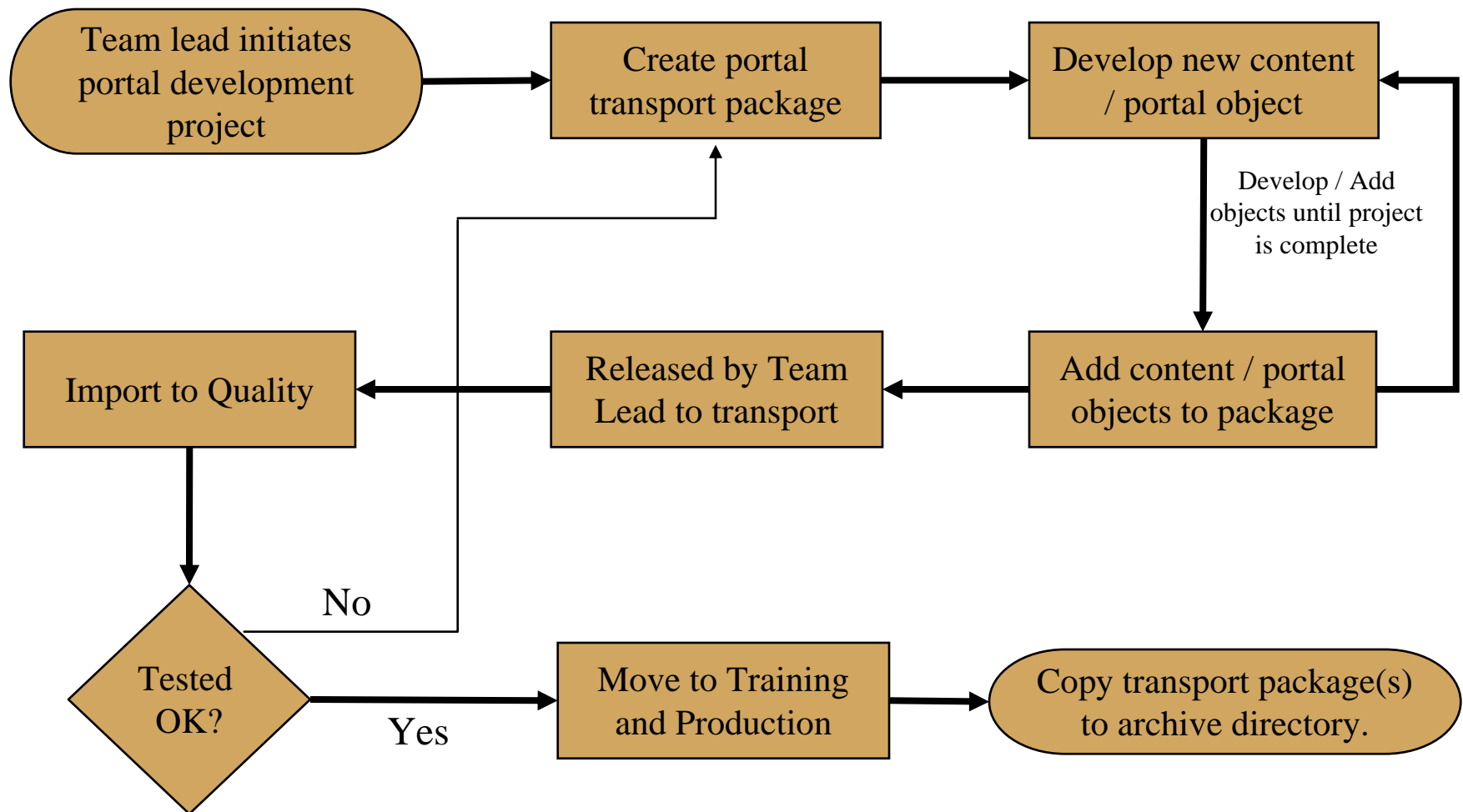


PORTAL TRANSPORTS: IMPORTING DETAIL

1. Export package from development
2. Import into quality and test
3. Export fixes to quality
4. Import and test corrections
5. Import original export and corrections together in both the Training and Production environments



PORTAL TRANSPORTS: PROCESS





PORTAL TRANSPORTS: KEY POINTS

- Create transport package before development starts. Then add content and portal objects as development is done.
- Never edit or copy in QA, Training, or Production Systems. Always transport changes up from development
- Keep a portal transport spreadsheet to ensure the completion of transports through all environments.
- Create a fast transport process in case a change needs to be moved to production quickly.



ALL SYSTEMS TRANSPORT MANAGEMENT

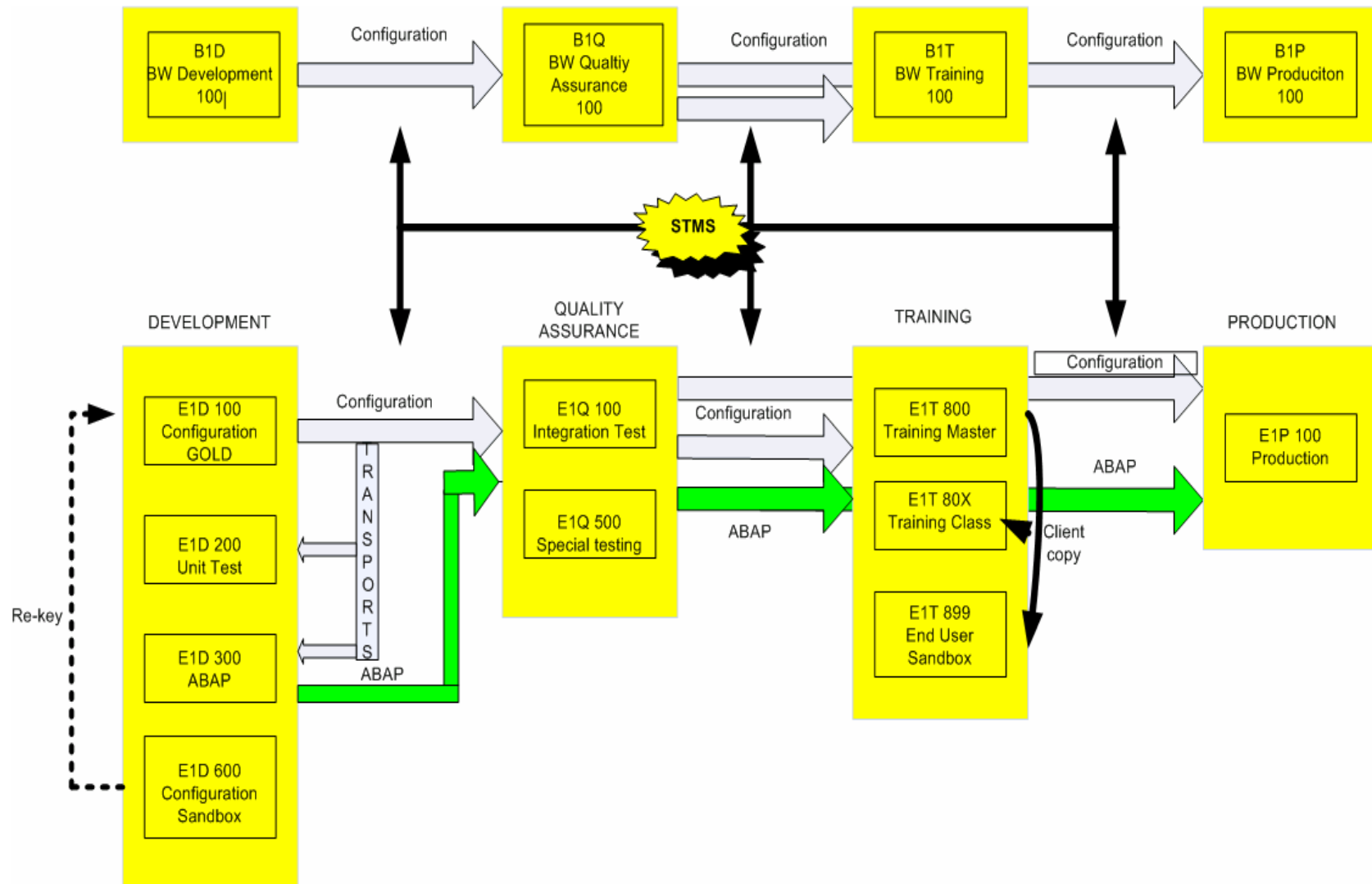
- **Each functional team must maintain control and documentation of its transports. Knowing what is in each transport and relationships between transports must be maintained. The order that transports should be applied in other systems is key to the receiving system working as configured in the DEV system. Receiving systems should be checked to verify all transports are working correctly.**
- **Transport creation should follow transport naming conventions.**



SCHEDULING OF TRANSPORTS

- **The movement of released transports within clients in the Development system are automated. Manual procedures are also enabled.**
- **The scheduling of movement of transports to the Quality Assurance, Training, and Production environments will be dictated by the phase the project is in.**
 - **For example –**
 - **During Realization – movement will be several times a day.**
 - **During Final Preparation – movement will be several times a day.**
 - **After Go Live – movement will probably be once a day.**
- **The precise procedures, required approvals, and documentation required will be defined during the Realization Phase and published to the project team.**
- **BSI changes schedule and change control process will be defined during the Realization Phase, once the final technical landscape is determined.**

LANDSCAPE SUMMARY





HARDWARE VENDOR SELECTION GUIDELINES



OVERVIEW OF SUPPORTED PLATFORMS

Supported database platforms include:

- **Microsoft SQL Server**
- **DB2**
- **Informix**
- **MySQL MaxDB**
- **Oracle**

Supported operating systems include:

- **Microsoft Windows 2000/2003 Server**
- **Linux**
- **Unix**
- **HP Tru64 Unix**
- **IBM AIX**
- **HP-UX**
- **Sun Solaris**
- **IBM OS/400**
- **Mainframe computers**



SELECTED CUSTOMER HARDWARE DECISIONS

Customer	Hardware vendor	Operating System	DBMS
State of Pennsylvania	IBM	AIX	Oracle
Gwinnett County, GA	IBM	AIX	Oracle
Purdue University	IBM	AIX	Oracle
NC DOT	SUN	Solaris	Oracle
British Columbia, Canada	Dell	Windows	MS SQL server
US Navy Merged Program	SUN	Solaris	Oracle
NAVAIR	SUN	Solaris	Oracle
Defense Logistics Agency	HP	HPUX	Oracle
Los Angeles Unified school District	IBM	AIX	
State of Washington	HP	Windows	SQL server
Canada Post	SUN	Solaris	



CONSIDERATIONS FOR NC HARDWARE VENDOR SELECTION

- *This is not a one time decision. SAP offers the flexibility of hardware vendors, operating systems, and database choices, the initial selection can be changed in the future as newer technology options mature.*
- *Since SAP systems run well on all major vendor products, the technical decision is really a business decision at this point in time.*

The following areas influence the final hardware vendor decision:

- **Proven mature technologies provide minimum risk in relationship to importance & visibility of functionality being implemented.**
- **Quality of the support for the different combinations of Hardware / Operating System / Database**
- **The State's overall information technology strategy**
- **Current State experience level with particular technologies**
- **Ability to hire or locate local technical talent to support these technologies**
- **Future technology directions versus current installed base**
- **Availability of facilities/space to house the additional equipment**
- **Scalability options for future growth**